WHAT IS CLAIMED IS:

1. A pattern identification method for identifying a pattern on a surface of an object to be identified by analyzing output data based on image data obtained by picking up an image of the pattern of the surface of the object to be identified which is an identification object,

characterized in that, the pattern identification method comprises:

previously setting a selection area including a local maximum value or a local minimum value of the output data on the output data;

executing total sum operation processing for obtaining total sum value of the output data in the selection area; and then

identifying the pattern on the surface of the object to be identified on the basis of the total sum value.

2. The pattern identification method according to claim 1, wherein identification of the pattern on the surface of the object to be identified is performed by comparing the total sum value with a prescribed threshold value.

3. A pattern identification method comprising picking up an image of a pattern on a surface of an object to be identified which is an identification object, extracting an obtained image data with a prescribed pitch, analyzing output data which are extracted and obtained, and identifying the pattern on the surface of the object to be identified,

characterized in that, the pattern identification method further comprises:

previously setting a selection area including local maximum values or local minimum values of the output data on the output data;

executing total sum operation processing for obtaining total sum value of the output data in the selection area;

obtaining total sum data string which is data string of the total sum value by

executing the total sum operation processing whenever the output data and the selection area are relatively shifted with a prescribed pitch; and

identifying the pattern on the surface of the object to be identified by analyzing the total sum data string.

4. A pattern identification method comprising picking up an image of a pattern on a surface of an object to be identified which is an identification object, extracting an obtained image data with a prescribed pitch, analyzing output data which are extracted and obtained, and identifying the pattern on the surface of the object to be identified,

characterized in that, the pattern identification method further comprises:

previously setting a first selection area including a local maximum value of the output data and a second selection area including a local minimum value of the output data on the output data;

executing total sum operation processing for obtaining a first total sum value of the output data in the first selection area and a second total sum value of the output data in the second selection area;

obtaining a first total sum data string which is data string of the first total sum value and a second total sum data string which is data string of the second total sum value by executing the total sum operation processing whenever the output data and the first selection area and the second selection area are relatively shifted with the prescribed pitch;

calculating a difference data string by calculating difference between respective elements of the first total sum data string and respective elements of the second total sum data string corresponding to the respective elements of the first total sum data string; and

identifying the pattern on the surface of the object to be identified by analyzing the difference data string.

5. A pattern identification method comprising picking up an image of a pattern on a surface of a circular object to be identified which is an identification object, setting a ring-shaped detection area concentrically with the circular object to be identified on an obtained image data, and identifying the pattern on the surface of the circular object to be identified by analyzing output data which is obtained by extracting image data in the ring-shaped detection area by a prescribed pitch,

characterized in that, the pattern identification method further comprises:

previously setting a selection area including a local maximum value or a local minimum value of the output data on the output data;

executing total sum operation processing for obtaining total sum value of the output data in the selection area;

obtaining the total sum data string which is data string of the total sum value by executing the total sum operation processing whenever the output data and the selection area are relatively circulated with the prescribed pitch; and

identifying the pattern on the surface of the circular object to be identified by analyzing the total sum data string.

6. A pattern identification method comprising picking up an image of a pattern on a surface of a circular object to be identified which is an identification object, setting a ring-shaped detection area concentrically with the circular object to be identified on an obtained image data, and identifying the pattern on the surface of the circular object to be identified by analyzing output data which is obtained by extracting image data in the ring-shaped detection area with a prescribed pitch,

characterized in that, the pattern identification method further comprises:

previously setting a first selection area including a local maximum value of the output data and a second selection area including a local minimum value of the output data on the output data;

executing total sum operation processing for obtaining a first total sum value of the output data in the first selection area and a second total sum value of the

output data in the second selection area;

obtaining a first total sum data string which is data string of the first total sum value and a second total sum data string which is data string of the second total sum value by executing the total sum operation processing whenever the output data and the first selection area and the second selection area are relatively shifted with the prescribed pitch;

calculating a difference data string by calculating difference between respective elements of the first total sum data string and respective elements of the second total sum data string corresponding to the respective elements of the first total sum data string; and

identifying the pattern on the surface of the object to be identified by analyzing the difference data string.

7. The pattern identification method according to claims 5 or 6, further comprising:

setting a plurality ring-shaped detection areas along a radial direction; and

analyzing a plurality of total sum data strings which are obtained from respective ring-shaped detection areas or a plurality of difference data strings which are obtained from respective ring-shaped detection areas.

8. The pattern identification method according to either one of claims 3 through 7, further comprising:

a first step for inputting the total sum data string or the difference data string as specific input data;

a second step for setting a specific selection area including a local maximum value or a local minimum value of the specific input data on the specific input data;

a third step for executing specific total sum operation processing which obtains a specific total sum value of the specific input data in the specific selection area;

a fourth step for obtaining a specific total sum data string which is a data string of the specific total sum value by executing the specific total sum operation processing whenever the specific input data and the specific selection area are relatively shifted with a prescribed pitch; and

after performing the first through the fourth steps, identifying the pattern on the surface of the object to be identified by analyzing the specific total sum data string.

9. The pattern identification method according to claim 8, further comprising:

obtaining the specific total sum data string as the specific input data by repeatedly performing processings from the second step through the fourth step a plurality of times; and then

identifying the pattern on the surface of the object to be identified by analyzing the specific total sum data string.

10. The pattern identification method according to either one of claims 3 through 7, further comprising:

a first step for inputting the total sum data string or the difference data string as specific input data;

a second step for setting a first specific selection area including a local maximum value of the specific input data and a second specific selection area including a local minimum value of the specific input data on the input data;

a third step for executing a specific total sum operation processing which obtains a first specific total sum value of the specific input data in the first specific selection area and a second specific total sum value of the specific input data in the second specific selection area;

a fourth step for obtaining a first specific total sum data string which is a data string of the first specific total sum value and a second specific total sum data

string which is a data string of the second specific total sum value by executing the specific total sum operation processing whenever the specific input data and the first specific selection area and the second specific selection area are relatively shifted with a prescribed pitch;

a fifth step for calculating a specific difference data string by calculating a difference between respective elements of the first specific total sum data string and respective elements of the second specific total sum data string corresponding to the respective elements of the first specific total sum data string; and

after performing the first through the fifth steps, identifying the pattern on the surface of the object to be identified by analyzing the specific difference data string.

11. The pattern identification method according to claim 10, further comprising:

obtaining the specific difference data string as the specific input data by repeatedly performing processings from the second step through the fifth step a plurality of times; and then

identifying the pattern on the surface of the object to be identified by analyzing the specific difference data string.

12. The pattern identification method according to either one of claims 8 through 11, further comprising:

obtaining the specific total sum data string or the specific difference data string as the specific input data by repeatedly performing a plurality of times processings from the second step through the fourth step recited in claim 8 or processings from the second step through the fifth step recited in claim 10; and then

identifying the pattern on the surface of the object to be identified by analyzing the specific total sum data string or the specific difference data string.

13. The pattern identification method according to either one of claims 3 through 12, wherein the analyzing of the total sum data string, the specific total sum data string, the difference data string or the specific difference data string includes:

detecting a peak value of the total sum data string, the specific total sum data stream, the difference data string or the specific difference data string, and

comparing the peak value detected with a prescribed threshold value.

14. The pattern identification method according to either one of claims 3 through 12, wherein the analyzing of the total sum data string, the specific total sum data string, the difference data string or the specific difference data string includes:

counting peak values of the total sum data string, the specific total sum data stream, the difference data string or the specific difference data string, and

comparing a total number of which the peak values are counted with a prescribed threshold value.

15. The pattern identification method according to either one of claims 3 through 12, wherein the analyzing of the total sum data string, the specific total sum data string, the difference data string or the specific difference data string includes comparing an entire total sum data string, an entire specific total sum data string, an entire difference data string or an entire specific difference data string with a reference total sum data string or a reference difference data string which are previously set.

16. The pattern identification method according to either one of claims 3 through 12, wherein the analyzing of the total sum data string, the specific total sum data string, the difference data string or the specific difference data string includes:

detecting a peak value of the total sum data string, the specific total sum data string, the difference data string or the specific difference data string;

obtaining an average value of the total sum data string, the specific total sum data string, the difference data string or the specific difference data string; and

comparing a value, which is subtracted the average value of the total sum data string, the specific total sum data string, the difference data string or the specific difference data string from the peak value of the total sum data string, the specific total sum data string, the difference data string or the specific difference data string, with a prescribed threshold value.

17. A pattern identification method comprising picking up an image of a pattern on a surface of a circular object to be identified which is an identification object, setting a detection area on an obtained image data, and identifying the pattern on the surface of the circular object to be identified by analyzing output data which is obtained by extracting image data in the detection area, characterized in that, the pattern identification method further comprises:

previously setting a characteristic portion peculiar to a prescribed normal circular object when the normal circular object is placed at a prescribed rotation position and the circular object to be identified is the prescribed normal circular object, by using a radius distance "r" from a center position O and a rotation angle θ_0 of the normal circular object;

detecting a rotation angle θ of the circular object to be identified with respect to the prescribed rotation position of the normal circular object; and

identifying the pattern on the surface of the circular object to be identified by analyzing output data specified by the rotation angle θ_0, the radius distance "r" and the rotation angle θ.

18. The pattern identification method according to claim 17, wherein

the characteristic portion includes a first characteristic portion having a

characteristic pattern of the normal circular object and a second characteristic portion not having the characteristic pattern of the normal circular object,

difference data between a first output data obtained corresponding to the first characteristic portion and a second output data obtained corresponding to the second characteristic portion are obtained, and

the pattern on the surface of the circular object to be identified is identified by comparing the difference data with a prescribed threshold value.

19. The pattern identification method according to claims 17 or 18, wherein a detection method of the rotation angle θ comprises:

previously setting a ring-shaped detection area concentrically with the circular object to be identified on the image data;

previously setting a first selection area including a local maximum value of the output data and a second selection area including a local minimum value of the output data on the output data which are obtained by extracting image data in the ring-shaped detection area by a prescribed pitch;

executing a total sum operation processing for obtaining a first total sum value of the output data in the first selection area and a second total sum value of the output data in the second selection area;

obtaining a first total sum data string which is a data string of the first total sum value and a second total sum data string which is a data string of the second total sum value by executing the total sum operation processing whenever the output data and the first selection area and the second selection area are relatively circulated with a prescribed pitch;

calculating a difference data string by calculating a difference between respective elements of the first total sum data string and respective elements of the second total sum data string corresponding to the respective elements of the first total sum data string; and

detecting the rotation angle by analyzing the difference data string.

20. The pattern identification method according to claim 19, further comprising identifying the pattern on the surface of the circular object to be identified by comparing data added or subtracted the difference data to or from a peak value of the difference data string with a prescribed threshold value.

21. The pattern identification method according to either one of claims 17 through 20, wherein the output data are specified while at least one of parameters of the rotation angle θ_0, the radius distance "r" and the rotation angle θ is slightly varied.

22. A pattern identification method for determining genuineness of an object to be identified or a circular object to be identified by using the pattern identification method recited in either one of claims 1 through 21.

23. An identification device comprising an identification means for identifying a pattern on the surface of an object to be identified or a circular object to be identified by using the pattern identification method recited in either one of claims 1 through 21.

24. The identification device according to claim 23, further comprising a genuineness decision means for determining genuineness of an object to be identified or a circular object to be identified by an identification result of the identification means.